

REMARKS

Below, the applicant's comments are preceded by related remarks of the examiner set forth in small bold type.

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the cavities formed between the upper and lower surfaces and open to the air must be shown or the feature(s) cancelled from the claim(s). Also, the air filled glass sphere within a cavity must be shown. No new matter should be entered.

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Applicant submits two additional drawings illustrating cavities formed between the upper and lower surfaces and open to air and air-filled glass spheres within a cavity. These features were originally described in the specification and claims, and, therefore, the addition of these figures does not constitute new matter.

3. Claims 59-73, 75 and 80 -89 are rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 59 and 80 each seem to recite two different contacts? There are contacts in the substrate (e.g. line 5 claim 59) that receive two different contacts (e.g. preamble claim 59)? The examiner will interpret as such. Also, in these claims there is an antecedent problem with "each signal contact".

Applicant has amended claims 59 and 80 to correct the antecedent basis problem and to clarify that the plurality of signal contacts receive the array of contacts.

Claim 65 contains the trademark/trade name Teflon. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 46 USC 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark of trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe the material of an insert and,

accordingly, the identification/description is indefinite.

Claim 65 has been amended to broaden its scope and remove reference to Teflon®. In making this amendment, applicant does not disclaim the use of Teflon from the scope of the claims.

In claim 75 the cavity is recited as being filled with air. Yet in the claim from which 75 depends, a cavity is recited as being filled with a non-conductive material. How can the same cavity be filled with air and a non-conductive material? Is the air the non-conductive material? The examiner will interpret the cavity in claim 75 to be a different cavity than the one recited in claim 74.

Claim 75 has been amended.

Claim 80 recited the limitation “the circuit card” in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 80 has been amended.

5. Claims 59-61,66 and, 68-69 (as best understood) rejected under 35 U. S. C. 102(b) as being anticipated by Sumida et al.

Sumida discloses an intercoupling component (10) for receiving an array of contacts (not shown) comprising: a substrate (11) formed of a non-conductive material (paragraph 00065 line 2) and having an upper surface (fig. 1), the substrate including a plurality of holes (11g) disposed on its upper surface and arranged in a predetermined footprint (e. g. fig. 1 or fig. 24) corresponding to the array of contacts; and a plurality of contacts (15, 21), each. signal contact disposed at least partially within a hole on the substrate (fig. 1 or 3), the substrate including a plurality of cavities (11 b), each of the cavities disposed between adjacent contacts.

Applicants respectfully disagree. Amended independent claim 59 requires, among other things, “a plurality of cavities, each ... disposed between adjacent signal contacts and having a shape selected to adjust the differential impedance between the adjacent signal contacts.” (emphasis added). There is nothing in Sumida which discloses or suggests the use of a cavity with a shape selected to adjust the differential impedance between adjacent signal contacts. Accordingly, Applicant respectfully submits that amended claim 59, along with its dependent claims, are patentable over Sumida and the other art of record.

6. Claims 74 and, 76-77 rejected under 35 USC 102(e) as being clearly anticipated by Sievenpiper et al.

Sievenpiper discloses an intercoupling component (title) comprising: a substrate (11) formed of non-conductive material having a first dielectric constant (paragraph 0025 lines 4+), the substrate having an upper surface (fig. 3b) and including a first hole (12) and a second hole (12) disposed on its upper surface; a first conductor (paragraph 0029 lines 5-7) disposed at least partially within the first hole; and a second conductor disposed at least partially within the second hole (paragraph 0029 lines 5-7 & fig. 5d), the substrate including a cavity (figures 3a & 5e) disposed between the first and second conductor, wherein the cavity is filled with non-conductive material (21) having a second dielectric constant.

Applicants respectfully disagree. Amended independent claim 74 requires, among other things, “a cavity disposed between [a] first and second conductor ... and having a shape selected to adjust the differential impedance between the first and second conductor.” There is nothing in Sievenpiper which discloses or suggests the use of a cavity with a shape selected to adjust the differential impedance between adjacent signal contacts. Accordingly, Applicant respectfully submits that amended claim 74, along with its dependent claims, are patentable over Sievenpiper and the other art of record.

7. Claims 80-82 and 85 (as best understood) rejected under 35 USC 102(e) as being anticipated by Johnson et al.

Johnson discloses an apparatus for use in a digital or analog transmission system (Field of Invention section), a circuit card comprising: a printed circuit board (116); and an interconnection device coupled to the printed circuit board (figures 3 & 5), the interconnection device comprising: a substrate (22) formed of a nonconductive material and having an upper surface (40), the substrate including a plurality of holes (fig. 4 at 38) disposed on its upper surface and arranged in a predetermined footprint (fig. 2) corresponding to an array of contacts; and a plurality of contacts (e.g. 28), each signal contact disposed at least partially within a hole on the substrate (fig. 3), the substrate including a plurality of cavities (38), each of the cavities disposed between adjacent contacts (figures 2,4, 13 &15).

Applicant respectfully disagrees. Amended independent claim 80 requires, among other things, “a plurality of cavities, each ... disposed between adjacent signal contacts and having a shape selected to adjust the differential impedance between adjacent signal contacts.” Johnson does not disclose or suggest using a cavity with a shape selected to adjust the differential impedance between adjacent signal contacts. Accordingly, Applicant respectfully submits that amended claim 74, along with its dependent claims, are patentable over Sievenpiper and the

other art of record.


It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Please apply any charges or credits to deposit account 06-1050, referencing attorney docket 02021-072002.

Respectfully submitted,

Date: _____

1/5/05



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Amendments to the Drawings:

Applicant submits formal drawings with this response. These formal drawings include two new drawings (FIG. 8A and FIG. 8B), which address the examiner's objection in paragraph 1 of the Office Action dated 10/5/2004. The features shown in these drawings were described in the original specification, and, therefore, the addition of these drawings does not constitute new matter.

The formal drawings also include an amended FIG. 8, which adds two reference numerals referred to in the specification but originally absent from the figures.

Attached to the last page of this response are the following:

- a. One (1) set of formal drawings, which includes two (2) sheets of new drawings (FIG. 8A and FIG. 8B) and a corrected version of FIG. 8;
- b. A marked-up copy of FIG. 8 showing the amendments to original FIG. 8.

FIG. 8
(marked up)

